CURRICULUM VITAE Prof. Dr. Nataša Novak Tušar

EDUCATION 2000 PhD. In Chemistry, M.S. in Chemsitry, B.S. in Chemical technology, University of Ljubljana

MAIN APPOINTMENTS

2020-present **head of the Laboratory** (2020-2022 Laboratory for Environmental Sciences and Engineering, from 2022 Laboratory for Catalysts) at t the Department of Inorganic Chemistry and Technology (D09) at National Institute of Chemistry (NIC) https://www.ki.si/en/departments/d09-department-of-inorganic-chemistry-and-technology/l21-laboratory-for-catalysts/

2006-present lecturing at University of Nova Gorica (UNG) and University of Ljubljana, Slovenia, **since 2018 full profesor and director of doctoral programme Materials at UNG** https://ung.si/en/schools/graduate-school/programmes/3MAT/

2013-2020 group leader for catalysis at D09 at NIC

2010-2015 research associate at CONOT Centre of Excellence for Low-Carbon Technologies at NIC

2003-2004 **EU reserach grant**: **MARIE CURIE individual fellowship** (1 year) at University of Trieste and Sinchrotron ELETTRA, Italy – training at XAFS beamline on X-Ray Absorption Spectroscopy for materials characterization

1991-1992 technologist, DINOS (1 year) – Company for recycling wastes, Ljubljana, Slovenia

1990-1991 B.S. student (1 year), Fraunhofer Institut für Umweltchemie und Ökotoxikologie, Schmallenberg, Germany

RESEARCH INTERESTS

More than twenty years of experience in research, working on world-wide basis in different environments – industry, research institute, university.

Research interests in the field of design and development of catalysts/photocatalysts in heterogeneous catalysis for environmental and energy applications. A special focus in air purification: design and development of transition-metal based low-temperature catalysts for air prevention pollution (head of the new Slovenian Research Agency programme launched in 2022: P1-0418 entitled Chemistry of catalysts for clean air), A special focus in water purification: design and development of Fenton-like catalysts for water cleaning from chemicals of emerging concern (CEC) under neutral pH and solar light. A special focus in hydrocarbon conversion at low temperatures: design and development of zeolite and other oxide based catalysts for biomass conversion to platform chemicals and fuels.

MAIN PROJECTS IN THE LAST 10 YEARS

2022-2027 leader of Slovenian Research Agency program P1-0418: Chemistry of catalysts for clean air

Understanding the chemistry of catalysts, which means understanding their synthesis through structural characterization, catalytic testing, and modeling, is a key to their design and development for air purification in industry, transport, indoor and outdoor environment..

2023 leader of industrial project of National institute of chemsitry with company Gorenje HISENSE EUROPE - investigations on selfcleaning catalytic surfaces for ovens in the haushold.

2018-2022 leader of NIC industrial project with the company NESTE engineering solutions, Finland, within the EU HORIZON 2020 project REWOFUEL (title: REsidual soft WOod conversion to high characteristics drop-in bioFUEL) - testing catalysts in the frame of industrial project.

2020-2021 UNESCO participation programme: Training of young scientists in innovative approaches for CO2 capture and utilization towards circular economy

2017-2018 leader of industrial project NIC – Global Bioenergies GmbH, France/Germany, (title: Optimization of iso-butene to iso-octene catalytic conversion)

2015-2018 leader of Flemish (FWO – Research Fondation Flanders as Lead Agency) - Slovenia (ARRS) research project with University of Antwerp, Belgium N1-0028 (title: Development of advanced TiO2-based photocatalyst for the degradation of organic pollutants from wastewater)

Representative of Slovenia in MC of EU COST actions: FP1306 (2014-2018), CA20126 (2021-2025).

Leader of several experimental projects at synchrotrons (ELETTRA Italy, LANSCE USA).

AWARDS 2021 Slovenian Research and Innovation Agency award »Excellence in science«

OTHER PROFESSIONAL ACTIVITIES

Coordinator of Pregl Colloquium at NIC since 2017 (for world renowned eminent lecturers).

President of the Arbitral Tribunal on scientific Integrity at NIC 2018-2025

Member of UNG University Senate since 2023

Member of the Board of Directors of ENMIX (European Nanoporous Materials Institute of Excellence) since 2013 and of EFCATS (European Federation of Catalysis Societies) since 2019 a treasurer and since 2023 vice-president.

Representative of NIC in EU cluster on catalysis in Energy X iniciative.

Member of the editorial boards of the journals Catalysis communications and Frontiers in chemistry.

Organizing conferences: 2009 2nd Slovenian-Croatian symposium on zeolites, 2010 EMEC 11, 2011 4th Slovenian-Serbian-Croatian-Serbian Symposium on Zeolites, 2012 SLONANO, 2014 ENMIX workshop, 2017 NPM-2, 2017 7th Slovenian-Croatian Symposium on Zeolites, 2019 EAAOP-6, 2010 EFCATS Summer School, 2022 NMP-6 and PAOT-7, 2023 FEZA, 2024 10th Slovenian-Croatian symposium on zeolites, 2025 NMP-8 and PAOT-9, **2027 EUROPACAT (cc 1500 participants).**